Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service	MM Docket No. 87-268

COMMENTS OF NORTH AMERICAN PHILIPS CORPORATION

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SUMMARY OF POSITION

North American Philips Corporation ("Philips") applauds the Commission for its timely Notice. As the testing of advanced television ("ATV") systems continues, it is appropriate to continue the rulemaking process. Issues can be narrowed and certain choices can be made even though the selection of an ATV standard for terrestrial broadcast remains a year and a half away.

Philips is eager to assist the Commission in developing public policies for ATV in the United States. Philips agrees that the Commission must focus now on issues relating to the difficult transition from NTSC TO ATV. But the early implementation of ATV (a goal which all interested parties evidently share) should not be confused with the early termination of NTSC (a development which could have grave consequences for broadcasters, manufacturers, and -- most importantly -- consumers). The primary objective at this stage of the process should be to get HDTV "up and running" as promptly as possible. Plans for the termination of NTSC service should be deferred.

Philips agrees that frequency allotment and assignment matters can be addressed in parallel with system selection issues. The key ingredient for the success of

advanced television broadcasting will be the production and transmission of ATV programming; nothing else will stimulate consumer demand for ATV receivers. Expediting the resolution of spectrum issues, hastening the issuance of broadcast licenses, encouraging broadcasters to construct and begin operating their ATV facilities, and giving broadcasters a significant measure of flexibility in using those facilities are all appropriate measures to accelerate the availability of ATV programming to the American consumer.

In the exercise of its public interest responsibilities, the Commission must be mindful of the needs and expectations of consumers who own NTSC television receivers. Many consumers will not be able to afford HDTV receivers for many years; others, who can afford HDTV receivers and who choose to purchase them, will also expect to be able to use their NTSC receivers for a considerable period. The Commission should therefore adhere to its previous determination that "existing service to viewers utilizing NTSC receivers must be continued." The Commission should table any discussion of plans for the surrender of NTSC channels or the repacking of the television spectrum.

The Notice properly recognizes the need to address patent issues. Those issues, however, are more complex than

the Notice suggests. There is no guarantee that the patents relevant to the winning system will be held or controlled by the successful proponent(s), nor is it certain that all relevant patents will even be identified at the time the winning system is selected. It is, however, entirely reasonable for the Commission to consider a proponent's licensing posture when selecting the ATV standard.

The selection of an ATV system for terrestrial broadcasting should take into account the importance of other delivery media in bringing video programming to the American consumer. Consumer acceptance of ATV is essential to a successful transition, and the confusion associated with multiple standards should be avoided as much as possible. The ATV development efforts of Philips and its partners in the Advanced Television Research Consortium ("ATRC") have proceeded with close attention to the needs of broadcast, cable, and satellite delivery media. Philips supports the objective of making the ATV system interoperable, extensible, scalable, and harmonious with standards for other applications. The ATRC's Advanced Digital Television proposal is designed to satisfy these criteria.

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North American Philips Corporation ("Philips") hereby responds to the Commission's Notice of Proposed Rulemaking concerning policies and rules for implementation of advanced television ("ATV"). Philips has been in the forefront of the development of ATV technologies for a number of years and has consistently and actively sought to assist the Commission in developing public policies that promote the prompt availability of high-definition television ("HDTV")[1] to the American consumer.[2] Philips welcomes this opportunity to continue to participate in the public policy process.

1/ This pleading, like the Notice to which it responds, generally uses the term ATV instead of HDTV. Philips, however, is committed to the objective of delivering HDTV, with all the qualities that the term has come to signify. See Notice at ¶ 1 n.1.

2/ Even before the initiation of the present docket, Philips encouraged the Commission to consider issues relating to advanced television. See Reply Comments of North American

(Footnote 2 continued on next page)

Although Philips has a major stake in the development of rules and policies for the implementation of ATV, many of the issues presented in the Notice are much more germane to those who must use the technology, especially broadcasters, than to those who are developing it. The questions raised by the Commission appear to be the right questions to be asking at this particular time, giving due consideration to other related activities currently underway within the context of the Advisory Committee on Advanced Television. But many of these questions relate to matters as to which broadcasters inevitably have the most immediate interest -- and the greatest expertise. Accordingly, Philips will defer to others on such issues as how many years broadcasters should be given to apply for ATV licenses or to construct ATV facilities once they are authorized.

There are, however, other important issues presented in the Notice as to which the Commission may find it helpful to have the views of a system proponent -- and a

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(Footnote 2 continued from previous page)
Philips Corporation, GEN Docket No. 85-172 (Aug. 29, 1986)(UHF-land mobile spectrum sharing); Reply Comments of North American Philips Corporation, GEN Docket No. 86-336 (Nov. 10, 1986)(satellite scrambling); Comments of North American Philips Corporation, RM-5811 (Mar. 9, 1987)(request for ATV inquiry).

major manufacturer of television receivers in the United States. This is especially true with respect to certain issues relating to the transition from NTSC to ATV (Parts V and VI of the Notice) and other issues involving patent licensing and compatibility with other media (Part VII of the Notice). These are the focus of the discussion which follows.

I. A REINTRODUCTION OF NORTH AMERICAN PHILIPS CORPORATION

Philips has already appeared in this docket, but it is appropriate to emphasize the multi-faceted nature of Philips' interest in, and commitment to, ATV. As has been previously stated, Philips Consumer Electronics Company manufactures color television receivers and cabinets in Greeneville, Tennessee, Jefferson City, Tennessee, and Arden, North Carolina. Philips Display Components Company manufactures color picture tubes in Ottawa, Ohio, for Philips Consumer Electronics and third-party customers. Signetics Company manufactures semiconductors in Sunnyvale, California, Orem, Utah, and Albuquerque, New Mexico. Research and development on ATV technologies is conducted by Philips Laboratories in Briarcliff Manor, New York, and by Philips Consumer Electronics in Knoxville, Tennessee. In addition, Magnavox CATV Systems manufactures electronic

cable distribution equipment in Manlius, New York. All of these resources of the company are involved in Philips' efforts to design and develop ATV technology for use in the United States.

The record in this proceeding should reflect one major change in Philips' ATV activities since comments were last filed in this docket. In 1990, Philips combined with Thomson Consumer Electronics Corporation, NBC, Inc., and the David Sarnoff Research Center to form the Advanced Television Research Consortium ("ATRC"), which was joined in 1991 by Compression Labs, Inc. As the Notice correctly reflects (¶ 3 n.6), ATRC has proposed two systems for evaluation by the Advisory Committee on Advanced Television Service ("Advisory Committee") and the Advanced Television Test Center ("Test Center"). The Advanced Compatible Television ("ACTV") system was tested in the Summer of 1991, and the Advanced Digital Television ("ADTV") system is scheduled to be tested in the Spring of 1992. Thus, Philips' ATV development efforts have evolved, in response to FCC guidance and technological opportunities, from an analog augmentation approach, to an analog simulcast approach, to a digital simulcast approach (this, of course, being the ADTV system developed in partnership with the other members of the ATRC).

Philips wishes to emphasize two primary considerations at this stage of the proceeding. One point relates to the importance of getting HDTV "up and running" as promptly as possible. The other relates to the importance of continuing NTSC service for a considerable period in the interests of broadcasters, manufacturers, and consumers alike. It is the interests of consumers which should be given greatest weight in establishing public policies for advanced television.

II. THE COMMISSION SHOULD PROMOTE EARLY IMPLEMENTATION OF ATV, BUT AVOID NEEDLESS DISRUPTION OF NTSC.

Philips strongly supports the Commission's continued efforts to implement ATV expeditiously. By establishing the Advisory Committee and by using notices of inquiry, notices of proposed rulemaking, and tentative decisions to narrow the issues, the Commission has monitored, encouraged, and guided the course of ATV technology development. The same process has also helped broadcasters, system proponents, and other interested parties channel their resources productively and prepare for the challenging transition that lies ahead.[3]

3/ The transition from analog NTSC to digital simulcast HDTV is likely to be considerably more complex than was the transition from black-and-white NTSC to color NTSC or from monaural FM broadcasting to stereophonic FM broadcasting.
(Footnote 3 continued on next page)

To maintain the momentum that has been achieved, it is prudent for the Commission to begin addressing spectrum issues now, rather than waiting until after a standard has been selected. Although some spectrum issues are necessarily linked to the selection of a system (coverage areas, for example, are not uniform, and this can affect allotments), it is only prudent to conduct the present proceeding and system testing in parallel, rather than in series. This will help to accelerate the implementation of terrestrial ATV broadcasting. Early availability of ATV broadcasting will help to ensure that broadcasters are not unduly disadvantaged vis-a-vis other delivery media (most notably cable, but also including satellites, VCRs, laser discs and, eventually, fiber), stimulate the new product market that receiver manufacturers are anticipating, and -- most importantly from a public interest standpoint -- provide consumers with new levels of viewing experience, as well as new ancillary services (ideally, without suffering the complications of incompatible standards).

(Footnote 3 continued from previous page)
Two major differences are the switch from analog to digital technologies and the use of a simulcast rather than a backwards-compatible approach to protecting the embedded base of receivers.

A. Spectrum Issues Warrant Prompt Attention, To Accelerate The Availability Of ATV.

The Notice sets forth several proposals which are intended to facilitate the licensing of ATV broadcasters and to place ATV programming on the air at the earliest possible date. Philips supports these objectives.

As has already been noted, Philips believes that the uppermost goal should be the early introduction of ATV. Experience in related contexts, such as the introduction of color television, shows that the pace of the transition will be dictated primarily by the availability of quality ATV programming.[4] There is little doubt that television sets capable of receiving ATV programming will be available relatively soon after the Commission selects a standard, but consumer demand will be small until there are significant quantities of ATV programming for viewers to watch.[5] To stimulate the production and transmission of ATV programming, it is not only appropriate but essential for the Commission to try to ensure that allotment and

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4/ Color televisions became available in the mid-1950s, but the demand for color receivers expanded rapidly only when the networks converted their prime-time program schedules to color in the mid-1960s.

5/ Increased demand, of course, will lead to increased manufacturing volumes, which will drive prices down, thereby stimulating demand further, and so on.

assignment issues are promptly addressed, that licenses for ATV broadcasting are promptly issued, that broadcasters construct and begin operating their ATV transmission facilities within a specified period, and that broadcasters enjoy a significant measure of flexibility in attracting audiences to their ATV channels.

Philips necessarily reserves judgment on many of the specific measures proposed in the Notice, such as the proposed requirements that broadcasters be given three years to apply for their ATV licenses and two years thereafter to construct ATV broadcasting facilities, or the question of what simulcasting requirements, if any, should be established at the beginning of the transition. At least in the first instance, the most important responses to those questions must come from broadcasters, who are the ones with the greatest expertise and motivation with respect to the challenges of beginning the terrestrial transmission of ATV programming. Still, Philips does not hesitate to support the Commission's goal of expediting the availability of HDTV programming across the country. Generally speaking, the proposals in the Notice seem calculated to advance that objective.

B. The Commission Should Exercise Caution In Planning For The Elimination Of NTSC.

Philips believes that the Commission should concentrate its current efforts on establishing a viable ATV broadcasting service. That is and should be the primary focus of policymaking activities. Significant energies should not be expended at this juncture in preparation for the elimination of NTSC broadcasting. Early introduction of ATV should not be confused with early termination of NTSC.

The course of the transition cannot be charted too far into the future. It is too soon to predict precisely when ATV will achieve the success that so many organizations, including Philips, are hoping and expecting.[6]

6/ Philips is proud of the success of such products as the audio cassette and the compact disc, both of which were invented in significant part by the engineers of Philips. VCRs represent another example of a consumer electronics product that demonstrated a powerful appeal to consumers. But it should not be forgotten that there have been other technologies (such as quadraphonic sound and AM stereo) which, for a variety of reasons, never came close to meeting expectations. Indeed, experience with the video laser disc shows that the technological capability of displaying significantly enhanced picture quality is not, in and of itself, sufficient to create broad consumer acceptance of a new product or service.

In the case of ATV, forecasts about the future are especially risky, for the technology is still being developed, the competition among video delivery media is growing increasingly complex, and consumers' reactions to not-yet-available services and products cannot be confidently predicted. Some of the variables are within the Commission's control, and the Commission should use the

(Footnote 6 continued on next page)

NTSC service must be maintained during the transition. The transition may take quite some time.

In the exercise of its public interest responsibilities, the Commission must be mindful of the needs and expectations of consumers who own NTSC television receivers. The receiver industry is intensely competitive, and it delivers products to consumers that they have come to rely upon to deliver reliable performance year after year after year. Indeed, one major study found that the average lifespan of a television receiver is approximately 15 years, and many operate faithfully for considerably longer.[7] Accordingly, the Commission must avoid making any decision that will deny consumers the opportunity to realize their legitimate expectations concerning the utility of these products.

It is important to keep in mind that HDTV receivers will be "high-end" products, whose complexity will command premium prices for a number of years after HDTV broadcasting is initiated. Many consumers will not be able to afford

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(Footnote 6 continued from previous page)
power it has to encourage the timely and successful implementation of ATV.

7/ Market Facts, Inc., "EIA Color Television Replacement Cycle Study," at 40 (Apr. 1985)("after 15 years, only 46 percent of all sets have gone out of use"; approximately 80 percent of ten-year-old sets are still in use).

HDTV receivers for many years; others, who can afford HDTV receivers and who choose to purchase them, may also own perfectly usable NTSC receivers (and VCRs designed to work with NTSC signals) that they would rightfully expect to continue to use -- in a kitchen, a basement, a bedroom, or elsewhere -- long after they have purchased an HDTV receiver as their primary entertainment system. It is for these reasons that the Commission properly determined, as one of its first "tentative conclusions" in this proceeding, that "existing service to viewers utilizing NTSC receivers must be continued . . . ."[8]

That commitment appears to be carried forward into the current notice, where the Commission expresses its intent to "protect the existing investment in consumer equipment during this transition period" and pledges "to ensure that consumers are not forced to purchase new television receivers in order to enjoy top quality, over-the-air television service." (¶ 45) But the extended

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8/ Tentative Decision and Further Notice of Inquiry, 3 FCC Rcd 6520, 6521 (1988). As Philips noted in response to that determination, "ATV should be implemented in a manner that preserves the availability of unimpaired television signals for today's -- and tomorrow's -- NTSC receivers, without the need for additional new equipment. NTSC compatibility is a bedrock principle that must not be compromised." Comments of North American Philips Corporation, MM Docket No. 87-268, at 6 (Nov. 30, 1988)(footnote omitted).

discussion of plans for surrendering NTSC channels and repacking the television spectrum (¶¶ 34-44) suggests that the Commission may contemplate a relatively near-term elimination of NTSC service.

Philips hopes that the Commission will not weaken its commitment to protecting consumers' investments and avoiding unnecessary dislocation.[9] Philips further hopes that the Commission will treat consumer interests as paramount in its deliberations on these issues.

The Commission should also consider the effects of its decisions on the dynamics of the NTSC receiver market over the next ten years and beyond. If the Commission were to rule that NTSC service will be cancelled a specified period after HDTV broadcasting begins, the ability of manufacturers to sell their receivers to consumers would be, at a minimum, seriously impaired.[10] If the average consumer

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9/ In so stating, Philips does not mean to suggest that broadcasters must be required to duplicate all ATV programming on their NTSC channels. Surely broadcasters should be allowed some flexibility to offer distinct programming that attracts viewers to the ATV channels. But, at some point in the transition, difficult questions may arise if disparities in the relative quality of the NTSC and ATV programming become too substantial. Philips reserves judgment on this issue for now and looks forward to reviewing the suggestions broadcasters may offer to deal with it.

10/ Philips alone has more than 10,000 employees in the United States in its TV-related businesses. Employment in this

(Footnote 10 continued on next page)

reasonably expects a receiver to function properly for an average of 15 years, the consumer would presumably be increasingly reluctant to pay current prices for an NTSC receiver whose lifespan was much more limited, due to government fiat. The disruption of the marketplace would intensify as the cut-off date grew closer. What would a consumer do, say, in the year 2010, if he or she needed a new television but could not afford an HDTV set, and it was understood that NTSC service was scheduled to be cut off in 2015?[11]

(Footnote 10 continued from previous page)
industry would seriously suffer if the market for NTSC receivers is curtailed before the market for ATV receivers has fully matured.

11/ There is a possibility that technology and market forces will make available reasonably priced converters, devices which receive HDTV programming and convert it to the NTSC format for display on NTSC receivers. But it is far too soon to predict how soon these will become available, how much they will cost, and what will be the reaction of consumers to having to purchase a new device to continue to use their NTSC receivers. One thing can be said with some confidence: consumers are not likely soon to have the option to purchase a device for $100 that is capable of receiving ATV programming and converting it for display on an NTSC television set. To the contrary; these devices may cost more than many of today's NTSC receivers.

Above and beyond questions of cost, there is the growing problem of proliferating interface devices. A/B switches, cable converters, and other switching devices already represent a significant complication (in terms of space, wiring complexity, and control difficulties) for many consumers. An ATV-NTSC converter would simply represent a further layer of complexity to a situation that many consumers already regard as a nuisance.

These are complex and highly volatile issues. At this stage in the evolution to ATV, it is premature to try to determine whether any particular percentage of receiver penetration should be deemed sufficient to justify setting a date for the termination of NTSC.[12] Philips strongly believes, however, that the Commission should discard any thoughts of selecting a date now for the elimination of NTSC. That approach would require an understanding of future events that simply cannot be foreseen.

What is most important is that the Commission concentrate its energies on establishing HDTV as a viable medium first, before making any plans for the termination of NTSC. And the Commission should not retreat from its commitment to preserve satisfactory service to consumers owning NTSC receivers for the foreseeable future.

III. PATENT ISSUES ARE MORE COMPLEX THAN IS SUGGESTED BY THE NOTICE.

The Notice properly recognizes the timeliness of beginning to consider patent issues. Those issues, however, are more complex than the Notice suggests.

12/ The Notice defines penetration as the "percentage of households with ATV receivers." (¶ 39) Yet, as previously noted, households with ATV receivers are likely also to own NTSC receivers, and these must not be overlooked in deciding whether to continue NTSC service.

The Notice expresses the Commission's expectation "that any proponent of an ATV transmission system selected as the nationwide standard will adopt a reasonable patent structure and royalty charging policy so that sufficient numbers of manufacturers will be able to produce ATV receivers and meet consumer demand." (¶ 46) Implicit in this statement is the assumption that the relevant patents will be held, or controlled, by the winning proponent. In truth, the circumstances are likely to be much more complicated.

Relevant patents may be owned by individuals or organizations which have not submitted ATV systems for evaluation by the Advisory Committee.[13] In addition, it is likely that the relevant patents will not all be identified at the time the winning system is selected. It is not clear whether these issues can all be addressed by the Commission, within its existing authority, or whether there are other ways of ensuring that reasonable licensing of all relevant intellectual property will occur.

13/ To elaborate, Philips performed a patent search in one particular class/subclass combination that relates to digital video compression. Over 300 patents were found. More than three-fourths of these patents were owned by parties other than those represented by the systems currently under consideration.

Notwithstanding these complications, Philips believes that the Commission can and should consider "a proponent's patent licensing practices . . . during the selection of an ATV transmission system." (¶ 46) Philips has broad experience in developing and licensing technology, and is committed to license any of its patents that may be relevant to whatever system is selected on reasonable and nondiscriminatory terms and conditions. If other proponents are more oriented toward proprietary approaches to technology and are less willing to license their technology to others, that is surely relevant to the Commission's selection of a standard.

The foregoing points are intended less as a definitive statement than as an invitation to a dialogue. These issues are complex, and it is important that the proponents and the Commission at least begin to discuss them.

IV. THE COMMISSION SHOULD STRIVE TO ENSURE THAT TERRESTRIAL ATV IS COMPATIBLE WITH ATV DELIVERED BY OTHER MEDIA

In selecting an ATV system for terrestrial broadcasting, the Commission should give considerable weight to the relationship between broadcasting and other media. Because consumer acceptance of ATV is essential to a

successful transition, the confusion associated with multiple standards should be avoided as much as possible.

The term "compatibility" must be used with some care. By choosing a simulcast rather than augmentation approach, and by preferring digital to analog techniques, the Commission has already foreclosed the possibility that terrestrial broadcasting of ATV will be "compatible" with NTSC broadcasting or existing technologies used in cable, satellite, VCRs, etc. Nor will there be complete compatibility between ATV signals used by each of the various delivery media. What can, and should, be expected is that the ATV approaches used on the different media are "interoperable" (meaning capable of relatively easy transcoding).[14]

The ATV development efforts of Philips and its partners in the ATRC have proceeded with close attention to the needs of broadcast, cable, and satellite delivery media. Consumers today rely on all of these media (plus VCRs) for access to video programming, and in the future the video delivery marketplace is likely to remain at least equally

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14/ Thus, there still remains an important relationship between the characteristics of ATV signals and the characteristics of NTSC signals. The 1050-line, interlaced signal structure used by ATRC was deliberately chosen to simplify transcoding between NTSC and ATV and to otherwise simplify the transition for broadcasters.

complicated. But use of a common set of standards, with common values, can maintain simplicity where it matters, at the consumer interface.

In a related vein, Philips supports the objective of making the ATV system "extensible, scalable, and harmonious with standards for other applications." (¶ 47, footnote omitted) The packetization of data and the dual bit stream used in the ADTV system are consistent with these objectives. In these and other ways, the Advanced Digital Television proposal of the ATRC is well-suited to the Commission's public policy goals.

V. CONCLUSION

Philips appreciates the opportunity to share the foregoing views with the Commission and looks forward to reviewing and having the opportunity to respond to the comments submitted by other parties. The development of HDTV public policies presents substantial challenges that can only be overcome by the constructive participation of

all interested parties. Philips is prepared, as in the past, to do its part to move the process forward.

Respectfully submitted,

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